

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

[1] (Original) A fluorescent lamp comprising a glass bulb provided with a phosphor film on its internal face, in which a rare gas and an amalgam pellet are enclosed, wherein the amalgam pellet contains zinc, tin, and mercury, one or a plurality of the amalgam pellets are enclosed in the glass bulb, and each of the amalgam pellets has a weight of not more than 20 mg, and

the fluorescent lamp satisfies the relationship expressed as:

$$45 \times (1-A) \leq x \leq 55 \times (1-A),$$

$$75A \leq y \leq 85A,$$

$$45-30A \leq z \leq 55-30A, \text{ and}$$

$$x+y+z \leq 100,$$

where A represents a value whose lower limit is determined as:

$$A \geq 0.3 - (S/25) \text{ and } A \geq 0.1 \text{ when } 0 < L^2/D \leq 1.5 \times 10^4,$$

$$A \geq 0.4 - (S/25) \text{ and } A \geq 0.2 \text{ when } 1.5 \times 10^4 < L^2/D \leq 5 \times 10^4, \text{ or}$$

$$A \geq 0.5 - (S/25) \text{ and } A \geq 0.3 \text{ when } 5 \times 10^4 < L^2/D \leq 8.5 \times 10^4,$$

where D represents an internal diameter of the glass bulb in millimeters,

L represents a length of a discharge path in millimeters,

S represents a surface area of the amalgam pellet in square millimeters,

x represents a content of zinc in percent by weight,

y represents a content of tin in percent by weight, and

z represents a content of mercury in percent by weight.

[2] (Original) The fluorescent lamp according to claim 1, wherein a plurality of the amalgam pellets are enclosed in the glass bulb, and each of the amalgam pellets has a weight of not more than 15 mg.

[3] (Currently amended) The fluorescent lamp according to claim 1 or 2, wherein the value of A satisfies $A < 0.9$.

[4] (Currently amended) The fluorescent lamp according to claim 1 ~~or 2~~, wherein the amalgam pellet is in an approximately spherical shape and has an average spherical diameter of not less than 0.3 mm and less than 3.0 mm.

[5] (Currently amended) The fluorescent lamp according to ~~any one of claims 1 to 4~~ claim 1, wherein the amalgam pellet is made of $Zn_aSn_bHg_c$, where a, b, and c are values in percent by weight satisfying $10 \leq a \leq 30$, $30 \leq b \leq 65$, and $25 \leq c \leq 45$.

[6] (Currently amended) The fluorescent lamp according to ~~any one of claims 1 to 5~~ claim 1, wherein the amalgam pellet releases mercury at least at 260°C.

[7] (Currently amended) The fluorescent lamp according to ~~any one of claims 1 to 6~~ claim 1, wherein the amalgam pellet further contains less than 10 percent by weight of at least one element selected from bismuth, lead, indium, cadmium, strontium, calcium, and barium.

[8] (Currently amended) The fluorescent lamp according to ~~any one of claims 1 to 7~~ claim 1, wherein the amalgam pellet is made of a mixture of ZnHg and SnHg.

[9] (Currently amended) An illumination device comprising ~~the a~~ fluorescent lamp according to ~~any one of claims 1 to 8~~, the fluorescent lamp comprising a glass bulb provided with a phosphor film on its internal face, in which a rare gas and an amalgam pellet are enclosed, wherein

the amalgam pellet contains zinc, tin, and mercury, one or a plurality of the amalgam pellets are enclosed in the glass bulb, and each of the amalgam pellets has a weight of not more than 20 mg, and

the fluorescent lamp satisfies the relationship expressed as:

$45 \times (1-A) \leq x \leq 55 \times (1-A),$

$75A \leq y \leq 85A,$

$45-30A \leq z \leq 55-30A,$ and

$x+y+z \leq 100,$

where A represents a value whose lower limit is determined as:

$A \geq 0.3 - (S/25)$ and $A \geq 0.1$ when $0 < L^2/D \leq 1.5 \times 10^4$,

$A \geq 0.4 - (S/25)$ and $A \geq 0.2$ when $1.5 \times 10^4 < L^2/D \leq 5 \times 10^4$, or

$A \geq 0.5 - (S/25)$ and $A \geq 0.3$ when $5 \times 10^4 < L^2/D \leq 8.5 \times 10^4$,

where D represents an internal diameter of the glass bulb in millimeters,

L represents a length of a discharge path in millimeters,

S represents a surface area of the amalgam pellet in square millimeters,

x represents a content of zinc in percent by weight,

y represents a content of tin in percent by weight, and

z represents a content of mercury in percent by weight.

[10] (Currently amended) A method for manufacturing ~~the~~ a fluorescent lamp according to ~~any one of claims 1 to 8,~~ the fluorescent lamp comprising a glass bulb provided with a phosphor film on its internal face, in which a rare gas and an amalgam pellet are enclosed, wherein

the amalgam pellet contains zinc, tin, and mercury, one or a plurality of the amalgam pellets are enclosed in the glass bulb, and each of the amalgam pellets has a weight of not more than 20 mg, and

the fluorescent lamp satisfies the relationship expressed as:

$45 \times (1 - A) \leq x \leq 55 \times (1 - A),$

$75A \leq y \leq 85A,$

$45 - 30A \leq z \leq 55 - 30A,$ and

$x + y + z \leq 100,$

where A represents a value whose lower limit is determined as:

$A \geq 0.3 - (S/25)$ and $A \geq 0.1$ when $0 < L^2/D \leq 1.5 \times 10^4$,

$A \geq 0.4 - (S/25)$ and $A \geq 0.2$ when $1.5 \times 10^4 < L^2/D \leq 5 \times 10^4$, or

$A \geq 0.5 - (S/25)$ and $A \geq 0.3$ when $5 \times 10^4 < L^2/D \leq 8.5 \times 10^4$,

where D represents an internal diameter of the glass bulb in millimeters,

L represents a length of a discharge path in millimeters,

S represents a surface area of the amalgam pellet in square millimeters,

x represents a content of zinc in percent by weight,

y represents a content of tin in percent by weight, and

z represents a content of mercury in percent by weight.

the method comprising the steps of:

forming the phosphor film on the internal face of the glass bulb; and

enclosing the amalgam pellet in the glass bulb,

wherein in the amalgam enclosing step, the glass bulb is kept at a temperature of not lower than 260°C.

[11] (New) An amalgam pellet for use in a fluorescent lamp, the fluorescent lamp including a glass bulb provided with a phosphor film on its internal face, in which a rare gas is enclosed, wherein

the amalgam pellet contains zinc, tin, and mercury, has a weight of not more than 20 mg per each pellet, and has a composition of $Zn_aSn_bHg_c$,

where a, b, and c are values in percent by weight satisfying $10 \leq a \leq 30$, $30 \leq b \leq 65$, and $25 \leq c \leq 45$.

[12] (New) The amalgam pellet according to claim 11, wherein the amalgam pellet releases mercury at least at a temperature of 260°C.

[13] (New) The amalgam pellet according to claim 11, wherein the amalgam pellet further contains less than 10 percent by weight of at least one element selected from bismuth, lead, indium, cadmium, strontium, calcium, and barium.

[14] (New) The amalgam pellet according to claim 11, wherein the amalgam pellet is made of a mixture of ZnHg and SnHg.

[15] (New) The amalgam pellet according to claim 11, wherein the amalgam pellet has an approximately spherical shape and an average spherical diameter of not less than 0.3 mm and less than 3.0 mm.